

STATUS OF CLAIMS

Claims 1 and 3 – 14 are pending.

Claims 8, 9 and 11 – 14 stand allowed.

Claims 1, 7 and 10 stand rejected.

Claims 3 – 6 stand objected to.

Claim 10 has been amended herein, without prejudice or disclaimer.

REMARKS

Applicant gratefully acknowledges allowance of Claims 8, 9 and 11 – 14 and the Examiner's indication of allowable subject matter in Claims 3 – 6. Reconsideration of the present application in light of the foregoing amendments and the following remarks is respectfully requested.

Claim Amendments

Claim 10 has been amended to recite that "wherein the grains and/or aggregates comprise at least two elements of column IV of the Mendeleiev table, or wherein the grains and/or aggregates comprise at least one element of column IV of the Mendeleiev table and at least one alloy of an element of column IV of the Mendeleiev table." Support may be found throughout the specification, for example, at Page 6, lines 14 – 25, Page 7, lines 25 – 30, and Page 17, line 34 to Page 18, line 6. No new matter has been added by this amendment.

Claim Rejections – 35 U.S.C. § 102

Claims 1 and 10 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Escoffery (U.S. Patent 3,151,379). Applicant traverses this entire rejection for at least the following reasons.

Claim 1 recites:

A method for forming a semiconductor material from powders comprising at least one component belonging to the group formed by the elements of column IV of the Mendeleiev table and their alloys, said method comprising:

one or more steps of compression of said powders; and
one or more thermal processing steps such that at least part

of the powders is melted or made viscous,

wherein, at least one of the one or more compression steps and at least one of the one or more thermal processing steps are simultaneous. (emphasis added.).

The Examiner contends that “Escoffery disclose comprising (sic) at least one component belonging to the group formed by the elements of column IV of the Mendeleiev table and their alloys, said method comprising- a-step one or more steps of compression of said powders and one or more thermal processing steps such that at least part of the powders is melted or made viscous, ...” See the Office Action of December 22, 2010 (“the Office Action” hereinafter), Page 2, second paragraph. Applicant respectfully disagrees for at least the following reasons.

As an initial matter, the Examiner fails to provide any support for the contention that Escoffery teaches a thermal processing step “such that at least part of the powders is melted or made viscous.” Since the Examiner does not cite any specific column or lines of Escoffery as a support, the Office Action is neither complete nor clear (see

MPEP § 707.07) and fails to provide sufficient basis for the rejection under 35 U.S.C. § 102(b). However, in the interest of expedited prosecution, Applicant further rebuts the Examiner's contention as follows.

A detailed study of Escoffery indicates that a silicon powder may be compressed onto a base 10 at a high pressure such as the order of 25,000 pounds per square inch at an elevated temperature such as 900 to 1200 degrees centigrade. See Col. 5, lines 28 – 37. There is no indication in the cited portion of Escoffery that silicon powders may be melted or made viscous under these conditions. Furthermore, Escoffery states that "[t]his will cause sintering of the silicon particles and attendant coalescing, after which the silicon is annealed in a suitable oven at a high temperature which may be somewhat less than 900° C." See Col. 5, lines 34 – 37. It is known in the art that the melting point of silicon is about 1414° C. See <http://en.wikipedia.org/wiki/Silicon>, (accessed March 22, 2011) (Exhibit A). Thus, at the temperatures disclosed in Escoffery, *i.e.*, 900° - 1200° C, which are well below the melting point of silicon, the silicon powder will neither be melted nor be made viscous. For at least these reasons, Escoffery fails to teach the features of Claim 1. Accordingly, reconsideration and removal of this 35 U.S.C. § 102(b) rejection of Claim 1 is respectfully requested.

Regarding Claim 10, the Examiner contends that "Escoffery disclose a structure of a component formed of one or comprising at least one semiconductor material comprising grains and/or aggregates exhibiting energy gaps of different value (*i.e.*, grains of silicon and grains of silicon with dopant.)." See the Office Action, Page 2, second paragraph. Without addressing the veracity of the Examiner's contention,

Applicant amends Claim 10 in the interest of expedited prosecution. In particular, Claim 10 is amended to further recite: "wherein the grains and/or aggregates comprise at least two elements of column IV of the Mendeleiev table, or wherein the grains and/or aggregates comprise at least one element of column IV of the Mendeleiev table and at least one alloy of an element of column IV of the Mendeleiev table." Escoffery fails to teach these features of amended Claim 10. At least for these reasons, reconsideration and removal of this 35 U.S.C. § 102(b) rejection of Claim 10 is respectfully requested.

Claim Rejections – 35 U.S.C. § 103

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Escoffery in view of Stevens (U.S. Patent 5,431,127). Applicant traverses this rejection for at least the following reasons.

Dependent Claim 7 depends from allowable base Claim 1. At least by virtue of its dependence from Claim 1, and in light of the reasons set forth above with regard to Claim 1, Claim 7 is also allowable. Accordingly, reconsideration and removal of this 35 U.S.C. § 103(a) rejection of Claim 7 is respectfully requested.

Allowable Subject Matter

Dependent Claims 3 – 6 depend from allowable base Claim 1. At least by virtue of their dependence from Claim 1, and in view of the reasons set forth above with regard to Claim 1, Claims 3 – 6 are also allowable. Reconsideration and removal of this objection of Claims 3 – 6 is respectfully requested.


It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

CONCLUSION

Applicant believes he has addressed all outstanding grounds raised by the Examiner and respectfully submits the present case is in condition for allowance, early notification of which is earnestly solicited.

Should there be any questions or outstanding matters, the Examiner is cordially invited and requested to contact Applicant's undersigned attorney at his number listed below.

Respectfully submitted,



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